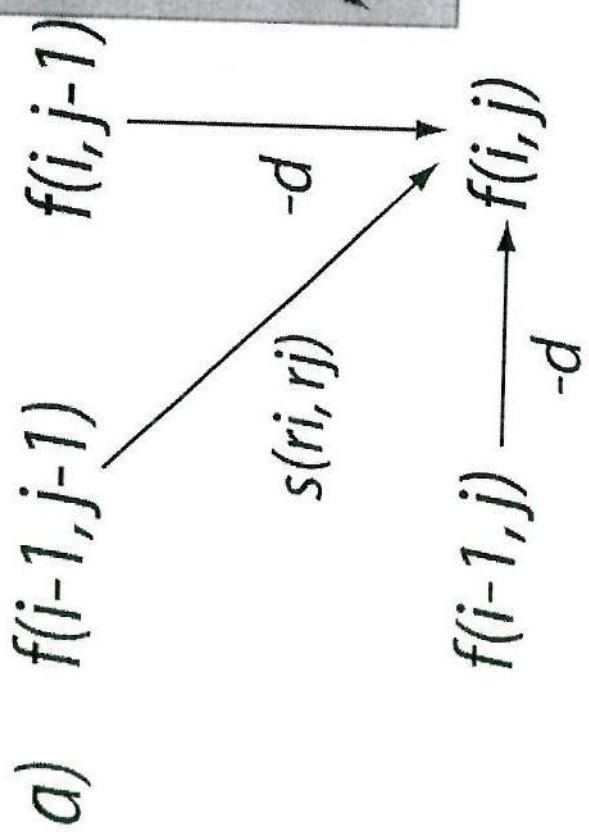
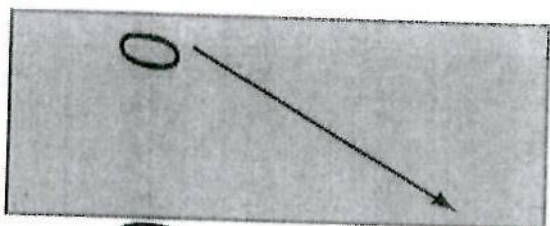


## Protein Sequence Comparison and Alignment

Naturally occurring anti-cancer / anti-tumour small peptides in plants:

<input type="checkbox"/> <b>AP01277</b> 1ED0, Viscotoxin A3 (VtA3, plant, BBMmMOA)	KSCPNTTGRNIYNACRLTGAPRPTCAKLSGCKIISGSTCPSDYPK
<input type="checkbox"/> <b>AP01278</b> Ref, Viscotoxin 1- PS (Vt1-PS, plant)	KSCPNTTGRNIYNTCRFGGGSREVCARISGCKIISASTCPSDYPK
<input type="checkbox"/> <b>AP01279</b> Ref, Viscotoxin A1 (VtA1, plant)	KSCPNTTGRNIYNTCRLTGSSRETCAKLSGCKIISASTCPSNYPK
<input type="checkbox"/> <b>AP01280</b> 1ORL, Viscotoxin C1 (VtC1, plant)	KSCPNTTGRNIYNTCRFAGGSRERCAKLSGCKIISASTCPSDYPK
<input type="checkbox"/> <b>AP01281</b> 1JMN, Viscotoxin A2 (VtA2, plant)	KSCPNTTGRNIYNTCRFGGGSRQVCASLSGCKIISASTCPSDYPK
<input type="checkbox"/> <b>AP01282</b> Ref, Viscotoxin B (VtB, plant)	KSCPNTTGRNIYNTCRLGGGSRERCASLSGCKIISASTCPSDYPK
<input type="checkbox"/> <b>AP01284</b> Ref, Viscotoxin B2 (VtB2, plant)	KSCCKNTTGRNIYNTCRFAGGSRERCAKLSGCKIISASTCPSDYPK
<input type="checkbox"/> <b>AP00236</b> P07504, Pyricularia thionin (Pp-TH, plant)	KSCCRNTWARNCYNVCRLPGTISREICAKKCDCKIISGTTCPDYPK

Compare two of these sequences using a scoring matrix.



b)

	A	G	G	T	T	G	C
A	1	0	-1	-2	-3	-4	-5
G	0	2	1	0	-1	-2	-3
G	-1	1	3	2	1	0	-1
T	-2	0	2	4	3	2	1
C	-3	-1	1	3	4	3	2

A G G T T G C

A G G T - - C

hPrP **KK** RP **KP** **GGWNTGGSRY** PGQSPGGNRTP (PxGGGWGQ) **5** GGGTH SQWN **KPSKP** **KTNM** **HM** **GAAAAAGAVVGGGLGG**  
 chPrP **KK** **GKGKPSGGWGAGSHRQ** (PxYPxx) **8** GQGYNPSSGGS YHNQ **KPWKPP** **KTNF** **KHV** **GAAAAAGAVVGGGLGG**  
 tPrP **KK** **GKGKGGGG** NTGSNRN (PxYPxx) **10** GQHYNPAGGGTNFKNQ **KPWKPDKP** **KTNM** **AM** **GAAAAAGAVVGGGLGG**  
 x1PrP **KK** **SGGKSKTGGWNTGSNRN** PNYP GGYPCNT GGSWGQ GYN **KQWKPK** **KTNM** **SV** **I** **GAAAGAI** **GG**

130 **YMLGSAMSRPIIH** **F** **GSDY** **EDRYREN** **MERYPNQ** **VY** **YRPMDEY** **SNQNN** **FVHDCV** **NI** **IKQHTV** **TTTKG** **ENFT** **ETDVKMMER** **VVEQ** **MCITQY** **ERESQAYYQ** **RG**  
 140 **YAMGRVMSGMNYH** **F** **DRPD** **EYRWSEN** **SARYPNR** **VY** **YRDYSS** **PVPQDV** **FVADCF** **NI** **TVTEYSIGPAK** **NTSE** **AVAAA** **MQT** **EVEMENK** **VVTK** **VIRE** **MCVQY** **REYRLA**  
 150 **YALGSAMSGMRM** **F** **DRPE** **ERQW** **WEN** **SNRYPNQ** **VY** **KEYNDR** **SVPEGR** **FVRDCV** **NI** **TVTEYKID** **PPNENQ** **NVT** **QVEVR** **VMKQ** **VIQE** **MCMQY** **EQYQLA**  
 160 **YMLGNAVGRMSYQ** **F** **NNP** **MSR** **RYNDY** **YNQ** **MPNR** **VY** **RP** **MYR** **GEEY** **VEDR** **FVRDCV** **NMS** **TEYII** **KPA** **BEGK** **RNS** **ELN** **QLD** **TTV** **KS** **QI** **IRE** **MC** **ITE** **Y** **RRG**

